IN THE CLAIMS

1. (Currently Amended) A digital packet data network for transporting packetized voice and data signals in the local loop between a central office switch and a plurality of local users, ~~wherein the data signals comprise data packets,~~ comprising:

a first converter located at the central office for converting the voice signals into voice packets and data signals into data packets, the first converter operable to provide priority processing treatment to voice packets over data packets;

a second converter located remotely from the central office and in the vicinity of the local users for converting the voice packets into voice signals and the data packets into data signals, the second converter operable to provide priority processing treatment to voice packets over data packets; and

a packet-switched network connected between the first and second converters for transporting the voice and data packets to and from the plurality of local users.

2. (Original) The digital packet data network of claim 1, further comprising:

interface circuitry for coupling the first converter to information sources that provide the voice and data signals.

3. (Original) The digital packet data network of claim 1, wherein the first converter converts the voice signals into a packet format having addressing that enables layer-2 switching.

4. (Currently Amended) The digital packet data network of claim 1, wherein the data signals received by the first converter are already in ~~further comprising:~~

~~a third converter located at the central office for converting the~~ data packets ~~into~~ having a format ~~that is similar to the voice packets created by the first converter~~ compatible with the packet switched network.

5. (Original) The digital packet data network of claim 1, wherein the packet switched network is an Ethernet data network.

6. (Original) The digital packet data network of claim 5, wherein the packet switched network includes a plurality of Ethernet switching devices.

7. (Original) The digital packet data network of claim 6, wherein at least one Ethernet switching device is located at the central office, and at least one other Ethernet switching device is located remotely from the central office.

8. (Original) The digital packet data network of claim 1, wherein the packet switched network comprises a dual-pipelined network for separately transporting the voice and data packets.

9. (Original) The digital packet data network of claim 1, wherein the voice and data packets are separately transported between the central office and the plurality of local users.

10. (Original) The digital packet data network of claim 1, wherein the packet switched network comprises:

at least one remote cabinet including a packet switching device; and

a plurality of remote access devices coupled to the packet switching device and including the second converter.

11. (Original) The digital packet data network of claim 10, wherein the at least one remote cabinet includes two input ports for separately receiving voice and data packets from the central office.

12. (Original) The digital packet data network of claim 11, wherein the at least one remote cabinet includes a plurality of interface unit cards that multiplex voice and data packets onto a single output.

13. (Original) The digital packet data network of claim 12, wherein the single outputs of the interface unit cards are each coupled via a single fiber connection to a remote access device.

14. (Original) The digital packet data network of claim 1, further comprising:

means for synchronizing the converted voice signals at the second converter to a local digital switch at the central office.

15. (Original) The digital packet data network of claim 1, wherein the means for synchronizing comprises:

means for deriving time-synchronization information from the local digital switch at the central office location on a periodic basis;

means for converting the time synchronization information into a time synchronization packet;

means for transporting the time synchronization packet to a user access device associated with the second converter; and

means for locking the time clock of the local access device to the local digital switch using the time synchronization packet.

16. (Currently Amended) A local loop access network, comprising:

a central telephony gateway coupled to a plurality of information sources, the central telephony gateway operable to convert voice and data signals provided by the plurality of information sources into voice and data packets, the central telephony gateway operable to provide priority processing treatment to the voice packets over the data packets;

a remote telephony gateway coupled to a plurality of user access devices, the remote telephony gateway operable to convert voice and data packets to voice and data signals for the user access devices, the remote telephony gateway operable to provide priority processing treatment to voice packets over data packets; and

a digital packet data network connected between the central telephony gateway and the remote telephony gateway for transporting ~~information~~ voice and data packets between the ~~plurality of information sources and the local access devices~~ central telephony gateway and the remote telephony gateway.

17. (Currently Amended) An access network for transporting voice and data signals between a plurality of local access devices and a central location, comprising:

means for converting the voice and data signals generated by the local access devices into voice and data packets;

packet network means for transporting the voice and data packets to the central location; and

means for converting the voice and data packets transported by the packet network means into voice and data signals at the central location;

means for providing priority processing treatment to voice packets over data packets.

18. (Currently Amended) A method of transporting voice and data signals in the local access loop, comprising:

receiving voice and data signals at a central office location;

converting the voice and data signals into voice packets and data packets having a common digital packet format;

providing priority processing treatment to voice packets over data packets;

transporting the voice and data packets to a plurality of local access devices using a digital packet switched network; and

converting the voice and data packets into voice and data signals at the local access devices.

19. (Currently Amended) A dual-pipeline digital packet data access network for transporting voice and data signals between a central office switch and a plurality of local access devices, comprising:

a packet converter located at the central office switch for converting voice signals and data signals into voice packets and data packets having a common digital packet format, the packet converter providing priority processing treatment to voice packets over data packets;

a voice packet pipeline connected between the central office switch and the plurality of local access devices for transporting the voice ~~signals~~ packets; and

a data packet pipeline connected between the central office switch and the plurality of local access devices for transporting the data ~~signals~~ packets.

20. (Currently Amended) The method of Claim 18, further ~~A method of time synchronizing voice signals in a local loop digital packet network connected between a central office location and a plurality of user access devices,~~ comprising:

deriving time-synchronization information from a local digital switch at the central office location on a periodic basis;

converting the time synchronization information into a time synchronization packet;

transporting the time synchronization packet to the plurality of ~~user~~ local access devices; and

locking the time clock of the local access device to the local digital switch using the time synchronization packet for synchronization of the voice packets.

21. (Currently Amended) A packet network for transporting voice signals in the local access loop, comprising:

a central telephony gateway located at a central office location for interfacing to a source of voice signal information and a source of data signal information;

a plurality of remote telephony gateways located remotely from the central office for interfacing to a plurality of local user access devices; and

a packet-switched network coupled between the central telephony gateway and the plurality of remote telephony gateways for transporting the voice signal information and the data source information to and from the plurality of local user access devices, the central telephony gateway and the remote telephony gateways providing priority processing treatment to voice signal information over data signal information.

22. (Currently Amended) The packet network of claim 21, wherein the central telephony gateway ~~is further interfaced to a source of data signal information, and wherein the packet-switched network is further for transporting the data signal information to and from the plurality of local user access devices~~ derives time-synchronization information on a periodic basis, the central telephony gateway operable to convert the time synchronization information into a time synchronization packet, the central telephony gateway operable to transport the time synchronization packet to the plurality of remote telephony gateways, the plurality of remote telephony gateways operable to lock the time clock of associated local access devices using the time synchronization packet for synchronization of the voice packets.